



HUMAN CHOLINE ACETYLTRANSFERASE

CROSS REFERENCE TO RELATED APPLICATIONS

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1/21/05*

[0001] This application is a divisional of U.S. Application No. 10/177,158, filed June 24, 2002, which is a divisional of No. 09/939,573, filed August 28, 2001 (now U.S. Patent No. 6,432,708, issued August 13, 2002), which is a divisional of U.S. Application No. 09/210,993, filed December 15, 1998 (now U.S. Patent No. 6,319,700, issued on November 20, 2001), which is a divisional of U.S. Application No. 08/464,601, filed June 5, 1995 (now U.S. Patent No. 6,245,540, issued on June 12, 2001), which is a continuation-in-part of International Application No. PCT/US94/13570, filed November 23, 1994. U.S. Application Nos. 09/939,573, 09/210,993, and 08/464,601 and International Application No. PCT/US94/12570 are hereby incorporated by reference in their entirety.

FIELD OF THE INVENTION

[0002] This invention relates to newly identified polynucleotides, polypeptides encoded by such polynucleotides, the use of such polynucleotides and polypeptides, as well as the production of such polynucleotides and polypeptides. More particularly, the polypeptide of the present invention is choline acetyltransferase, sometimes hereinafter referred to as "hChAT". The invention also relates to inhibiting the action of such polypeptides.

BACKGROUND OF THE INVENTION

[0003] A human choline acetyltransferase gene has been isolated from the human brain (McGeer P.L. et al., *Life Sci.*, 34:2319-2338 (1984)). Choline acetyltransferase is specifically expressed in cholinergic neurons. Choline acetyltransferase is an enzyme which catalyzes a reaction which yields the neurotransmitter acetylcholine. Although choline acetyltransferase expression has been found in both neurons and certain non-neuronal tissues, such as placenta (Schubert, J., *Biochim. Biophys. Acta*, 122:470-481 (1966)) and spermatozoa (Ibanez, C.F. and Persson, H., *Eur. J. Neurosci.*, 3:1309-1315 (1991)), the expression of this enzyme is largely limited to certain neurons.